

PATENT APPLICATION

for:

"Laser cutting method and apparatus with a  
bifocal optical means and a hydrogen-based  
assist gas"

in the name of:

L'AIR LIQUIDE, SOCIETE ANONYME POUR L'ETUDE ET  
L'EXPLOITATION DES PROCEDES GEORGES CLAUDE

Inventor: Olivier MATILE

ABSTRACT

Apparatus and method for cutting a workpiece by the use of a laser beam and an assist gas, in which at least one optical means is used to focus the laser beam at several focal points separate from one another, and in which, as assist gas for the said laser beam, a gas mixture containing hydrogen and at least one inert gas is used. The optical means is transparent or reflecting and is chosen from lenses, mirrors and combinations thereof, preferably a bifocal lens. The workpiece to be cut is made of stainless steel, coated steel, aluminium or an aluminium alloy, non-alloy steel or alloy steel. The inert gas is chosen from nitrogen, argon, helium and mixtures thereof.

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